comparatively leafless; while the completely barren male trees abounded with foliage. There is a well-known morphological law, that the parts of flowers and the resulting seed vessels are metamorphosed leaves. In the case of these maples, the female trees, engaged in developing primordial leaves to perfect fruit, make few leaves in addition to those they started with in the spring, until, after several weeks, their fruitage has been completed. But the male flowers, dying immediately on perfecting their pollen, the male trees push at once into a heavy leaf growth, clothing the tree at a very early period with a dense foliage.

But another consideration intrudes itself here. The woody parts of a tree are made up mainly from the atmosphere through the medium of the leaves, and we may suppose that the greater the proportionate amount of leaves, the greater would be the woody product. Applying now these acknowledged principles to these maple trees, we find some remarkable results. Notwithstanding the male trees are relieved from the enormous strain on the powers of nutrition which the annual and often wonderfully heavy crops must entail, and notwithstanding they have, as in many cases this season especially, the advantage of a hundredfold more foliage at so early a period in the season, male trees are no larger, vigorous, or in any way more healthy than the female ones. In a crowded group of five trees where a female tree is the central one, and a male on the outside, the male with every advantage of food for the roots, and light and air for its large crop of leaves, and which happens to be an unusually large mass of foliage even for a male maple, the girth of the trunk is four feet three inches, while the crowded female tree is five feet five inches, or two inches larger, with all its disadvantages!

We have been looking for weaker individuals in the male than in the female trees. But since he had first made his discoveries we have learned to distinguish much more clearly between vegetative and reproductive force. A large man is not necessarily a strong man in what we should call vital power; but we measure it by endurance under severe trials, and we see now that we need not have looked for weaker trees among the cedars or other dioecious trees, so much as for powers of endurance under reproductive or other essentially vital strains. Here we have this power thrown heavily in favor of the female tree; and he submitted that dioecism in trees instead of being an objection, is a powerful argument in favor of his views.

The President, Dr. Ruschenberger, inquired if Mr. Meehan had ever noticed any difference in the longevity of the male and female trees.

Mr. Meehan replied that he had so far seen no difference.

On a Singular Tartar on the Teeth of a Sheep.—Mr. E. Goldsmith called attention to a deposit upon the teeth in the lower jaw of a sheep. The specimen had been exhibited at a previous meet-

ing of the Academy by Dr. Harrison Allen. He had received it from a gentleman who informed him that he had picked it up in the neighborhood of a silver mine in Mexico. The grass near the mine was contaminated with silver amalgam, and the sheep were said to have been poisoned by the herbage. The peculiar tartar on the teeth was supposed to consist of silver amalgam.

Upon examination it was found that the tartar formed a thin scale covering the teeth so far as they were exposed. The thickness was about 0.2 millimeter. When viewed under a lens of moderate power the deposit seemed to have been built up gradually from within, for, on breaking, a series of very thin layers were noticed of which the outer one appeared darker than those underneath. The scales were very fragile. Its lustre was truly metallic, as no light could pass through it even on the thin edges, but the lustre of the reflected rays of light were decidedly metallic, and this property was alike throughout the scales. These scales did not allow an impression to be made with the nail of the finger, hence they were harder than silver amalgam. If heated on platinum foil it blackened, showing the presence of organic matter; the form of the fragment did not change during the heating, but the silvery lustre entirely disappeared. Heated in the tube closed on one end, at first a gray cloud arose, then water and an oily matter deposited themselves on the upper or cooler end of the tube; lower down near the now carbonized test a metallic layer was recognized with the aid of the lens. The powdered substance being mixed with carbonate of soda, and treated in the same way the result did not differ. If melted on coal with the addition of carbonate of soda there was obtained a white enamel but no metal whatever. In nitric acid the tartar was soluble as long as the solution was concentrated; if diluted with water a turbidity, caused by the separation of an organic matter, was formed. This organic matter was soluble in caustic ammonia and from this ammoniacal solution it was again precipitable by nitric acid; the precipitate was flocculent, not at all cheesy; it carbonized when heated, and left no residue if the heating was prolonged for a sufficient time.

The remaining solution from which this organic substance had been separated gave no reaction with hydrochloric acid, the absence of silver being thereby proven.

A stream of sulphuretted hydrogen gave a precipitation in which a very little quantity of sulphuret of mercury was discerned. Very strong reactions of phosphoric acid and lime were observed in the nitric acid solution with the ordinary reagents.

This singular tartar is consequently not silver amalgam but the same material of which teeth are generally made, modified, however, by the influence of a small quantity of mercury. That metallic mercury is easily absorbed by the animal economy is well known, it seems, however, not to have been noticed on the outside of the teeth before.